



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

Thursday, September 8, 2022

Chip Byrd  
Sevenson Environmental Services, Inc.  
2749 Lockport Road  
Niagara Falls, NY 14305

RE: A2H0778 - Gasco -- Filtercake - 111323

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A2H0778, which was received by the laboratory on 8/24/2022 at 10:08:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [dthomas@apex-labs.com](mailto:dthomas@apex-labs.com), or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

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Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	2.6 degC
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This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

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Darwin Thomas, Business Development Director



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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**ANALYTICAL REPORT FOR SAMPLES**

**SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FC-082222-1968	A2H0778-01	Solid	08/23/22 15:00	08/24/22 10:08

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**ANALYTICAL SAMPLE RESULTS**

**Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 2210046</b>		
Diesel	<b>8490000</b>	47100	94200	ug/kg dry	1	09/02/22 21:18	NWTPH-Dx	
Oil	ND	94200	188000	ug/kg dry	1	09/02/22 21:18	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>09/02/22 21:18</i>	<i>NWTPH-Dx</i>

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**ANALYTICAL SAMPLE RESULTS**

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0945</b>		<b>V-15</b>
<b>Gasoline Range Organics</b>	<b>107000</b>	21900	43900	ug/kg dry	50	08/26/22 19:20	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 111 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>08/26/22 19:20</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>1</i>	<i>08/26/22 19:20</i>	<i>NWTPH-Gx (MS)</i>

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**ANALYTICAL SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0945</b>		<b>V-15</b>
Acetone	ND	8770	8770	ug/kg dry	50	08/26/22 19:20	5035A/8260D	ICV-02
Acrylonitrile	ND	877	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Benzene	ND	43.9	87.7	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Bromobenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Bromochloromethane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Bromodichloromethane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Bromoform	ND	439	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Bromomethane	ND	4390	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
2-Butanone (MEK)	ND	4390	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
n-Butylbenzene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
sec-Butylbenzene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
tert-Butylbenzene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Carbon disulfide	ND	2190	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Carbon tetrachloride	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Chlorobenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Chloroethane	ND	4390	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Chloroform	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Chloromethane	ND	2190	2190	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
2-Chlorotoluene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
4-Chlorotoluene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Dibromochloromethane	ND	439	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	1100	2190	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Dibromomethane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2-Dichlorobenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,3-Dichlorobenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,4-Dichlorobenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Dichlorodifluoromethane	ND	439	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1-Dichloroethane	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1-Dichloroethene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
cis-1,2-Dichloroethene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
trans-1,2-Dichloroethene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	

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**ANALYTICAL SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0945</b>		<b>V-15</b>
1,2-Dichloropropane	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,3-Dichloropropane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
2,2-Dichloropropane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1-Dichloropropene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
cis-1,3-Dichloropropene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
trans-1,3-Dichloropropene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
<b>Ethylbenzene</b>	<b>175</b>	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	<b>J</b>
Hexachlorobutadiene	ND	439	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
2-Hexanone	ND	4390	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Isopropylbenzene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
4-Isopropyltoluene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Methylene chloride	ND	2190	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
4-Methyl-2-pentanone (MIBK)	ND	2190	4390	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
<b>Naphthalene</b>	<b>1340</b>	1100	2190	ug/kg dry	50	08/26/22 19:20	5035A/8260D	<b>J</b>
n-Propylbenzene	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Styrene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1,1,2,2-Tetrachloroethane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Tetrachloroethene (PCE)	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Toluene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2,3-Trichlorobenzene	ND	1100	2190	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2,4-Trichlorobenzene	ND	1100	2190	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1,1-Trichloroethane	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,1,2-Trichloroethane	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Trichloroethene (TCE)	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Trichlorofluoromethane	ND	439	877	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,2,3-Trichloropropane	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
<b>1,2,4-Trimethylbenzene</b>	<b>483</b>	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
1,3,5-Trimethylbenzene	ND	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
Vinyl chloride	ND	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	
<b>m,p-Xylene</b>	<b>237</b>	219	439	ug/kg dry	50	08/26/22 19:20	5035A/8260D	<b>J</b>
<b>o-Xylene</b>	<b>158</b>	110	219	ug/kg dry	50	08/26/22 19:20	5035A/8260D	<b>J</b>

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**ANALYTICAL SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0945</b>		<b>V-15</b>
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>	<i>Limits: 80-120 %</i>	<i>80-120 %</i>	<i>1</i>	<i>08/26/22 19:20</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>96 %</i>	<i>80-120 %</i>	<i>80-120 %</i>	<i>1</i>	<i>08/26/22 19:20</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>	<i>79-120 %</i>	<i>79-120 %</i>	<i>1</i>	<i>08/26/22 19:20</i>	<i>5035A/8260D</i>	

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**ANALYTICAL SAMPLE RESULTS**

**Regulated TCLP Volatile Organic Compounds by EPA 1311/8260D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 2210073</b>		
Benzene	ND	6.25	12.5	ug/L	50	09/02/22 16:51	1311/8260D	
2-Butanone (MEK)	ND	250	500	ug/L	50	09/02/22 16:51	1311/8260D	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	09/02/22 16:51	1311/8260D	
Chlorobenzene	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
Chloroform	ND	25.0	50.0	ug/L	50	09/02/22 16:51	1311/8260D	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
Vinyl chloride	ND	12.5	25.0	ug/L	50	09/02/22 16:51	1311/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>09/02/22 16:51</i>	<i>1311/8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>1</i>	<i>09/02/22 16:51</i>	<i>1311/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>09/02/22 16:51</i>	<i>1311/8260D</i>

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**ANALYTICAL SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H1078</b>		
Acenaphthene	48400	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Acenaphthylene	ND	5790	5790	ug/kg dry	200	08/31/22 14:43	EPA 8270E	R-02
Anthracene	54200	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Benz(a)anthracene	33300	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Benzo(a)pyrene	36100	1930	3860	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Benzo(b)fluoranthene	30100	1930	3860	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Benzo(k)fluoranthene	10900	1930	3860	ug/kg dry	200	08/31/22 14:43	EPA 8270E	M-05, Q-42
Benzo(g,h,i)perylene	23500	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Chrysene	44900	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Dibenz(a,h)anthracene	2290	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	J, Q-42
Fluoranthene	155000	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Fluorene	36800	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Indeno(1,2,3-cd)pyrene	21100	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
1-Methylnaphthalene	9460	2580	5150	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
2-Methylnaphthalene	ND	2580	5150	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Naphthalene	ND	2580	5150	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Phenanthrene	269000	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Pyrene	187000	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
Carbazole	ND	1930	3860	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Dibenzofuran	3350	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-42
2-Chlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Chloro-3-methylphenol	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4-Dichlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4-Dimethylphenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4-Dinitrophenol	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2-Methylphenol	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
3+4-Methylphenol(s)	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2-Nitrophenol	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Nitrophenol	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Pentachlorophenol (PCP)	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Phenol	ND	2580	5150	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	

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 ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**ANALYTICAL SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H1078</b>		
2,3,5,6-Tetrachlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4,5-Trichlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Nitrobenzene	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4,6-Trichlorophenol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	19300	38600	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Butyl benzyl phthalate	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Diethylphthalate	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Dimethylphthalate	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Di-n-butylphthalate	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Di-n-octyl phthalate	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
N-Nitrosodimethylamine	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
N-Nitrosodiphenylamine	ND	6760	6760	ug/kg dry	200	08/31/22 14:43	EPA 8270E	R-02
Bis(2-Chloroethoxy) methane	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Hexachlorobenzene	ND	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Hexachlorobutadiene	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Hexachlorocyclopentadiene	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Hexachloroethane	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2-Chloronaphthalene	ND	1280	2580	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,2,4-Trichlorobenzene	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Bromophenyl phenyl ether	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Aniline	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Chloroaniline	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2-Nitroaniline	ND	25800	51500	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
3-Nitroaniline	ND	25800	51500	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
4-Nitroaniline	ND	25800	51500	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,4-Dinitrotoluene	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
2,6-Dinitrotoluene	ND	12800	25800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Benzoic acid	ND	161000	322000	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Benzyl alcohol	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	

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**ANALYTICAL SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H1078</b>		
Isophorone	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Azobenzene (1,2-DPH)	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
3,3'-Dichlorobenzidine	ND	25800	51500	ug/kg dry	200	08/31/22 14:43	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,3-Dinitrobenzene	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,4-Dinitrobenzene	ND	32200	64400	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
Pyridine	ND	6440	12800	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,2-Dichlorobenzene	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,3-Dichlorobenzene	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
1,4-Dichlorobenzene	ND	3220	6440	ug/kg dry	200	08/31/22 14:43	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 59 %</i>	<i>Limits: 37-122 %</i>	200	08/31/22 14:43	EPA 8270E	S-05
<i>2-Fluorobiphenyl (Surr)</i>			<i>59 %</i>	<i>44-120 %</i>	200	08/31/22 14:43	EPA 8270E	S-05
<i>Phenol-d6 (Surr)</i>			<i>7 %</i>	<i>33-122 %</i>	200	08/31/22 14:43	EPA 8270E	S-05
<i>p-Terphenyl-d14 (Surr)</i>			<i>83 %</i>	<i>54-127 %</i>	200	08/31/22 14:43	EPA 8270E	S-05
<i>2-Fluorophenol (Surr)</i>			<i>13 %</i>	<i>35-120 %</i>	200	08/31/22 14:43	EPA 8270E	S-05
<i>2,4,6-Tribromophenol (Surr)</i>			<i>%</i>	<i>39-132 %</i>	200	08/31/22 14:43	EPA 8270E	S-01

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**ANALYTICAL SAMPLE RESULTS**

**Total Metals by EPA 6020B (ICPMS)**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>				
Batch: 22H0947								
Arsenic	<b>10100</b>	2550	5100	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Barium	<b>214000</b>	2550	5100	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Cadmium	ND	510	1020	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Chromium	ND	2550	5100	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Mercury	ND	204	408	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Selenium	ND	2550	5100	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
Silver	ND	510	1020	ug/kg dry	10	08/27/22 03:24	EPA 6020B	
<b>FC-082222-1968 (A2H0778-01RE1)</b>				<b>Matrix: Solid</b>				
Batch: 22H0947								
Lead	ND	510	1020	ug/kg dry	10	08/29/22 15:39	EPA 6020B	

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**ANALYTICAL SAMPLE RESULTS**

**TCLP Metals by EPA 6020B (ICPMS)**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>				
Batch: 2210029								
Arsenic	ND	---	0.100	mg/L	10	09/01/22 14:58	1311/6020B	
Barium	ND	---	5.00	mg/L	10	09/01/22 14:58	1311/6020B	
Cadmium	ND	---	0.100	mg/L	10	09/01/22 14:58	1311/6020B	
Chromium	ND	---	0.100	mg/L	10	09/01/22 14:58	1311/6020B	
Lead	ND	---	0.0500	mg/L	10	09/01/22 14:58	1311/6020B	
Mercury	ND	---	0.00700	mg/L	10	09/01/22 14:58	1311/6020B	
Selenium	ND	---	0.100	mg/L	10	09/01/22 14:58	1311/6020B	
Silver	ND	---	0.100	mg/L	10	09/01/22 14:58	1311/6020B	

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**ANALYTICAL SAMPLE RESULTS**

**Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0995</b>		
<b>Total Cyanide</b>	<b>6380</b>	488	975	ug/kg dry	2	08/29/22 16:26	D7511-12	

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**ANALYTICAL SAMPLE RESULTS**

**Percent Dry Weight**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H0865</b>		
<b>% Solids</b>	<b>20.3</b>	---	1.00	%	1	08/25/22 07:08	EPA 8000D	

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**ANALYTICAL SAMPLE RESULTS**

**TCLP Extraction by EPA 1311 (ZHE)**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>FC-082222-1968 (A2H0778-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 22I0031</b>		
TCLP ZHE Extraction	0.00	---		N/A	1	09/01/22 15:38	EPA 1311 ZHE	
<b>FC-082222-1968 (A2H0778-01RE1)</b>				<b>Matrix: Solid</b>		<b>Batch: 22H1092</b>		
TCLP Extraction	PREP	---		N/A	1	08/31/22 15:38	EPA 1311	

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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22I0046 - EPA 3546 (Fuels)</b>						<b>Solid</b>						
<b>Blank (22I0046-BLK1)</b>			Prepared: 09/02/22 06:23 Analyzed: 09/02/22 20:32									
<u>NWTPH-Dx</u>												
Diesel	ND	9090	25000	ug/kg wet	1	---	---	---	---	---	---	
Oil	ND	18200	50000	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<b>LCS (22I0046-BS1)</b>			Prepared: 09/02/22 06:23 Analyzed: 09/02/22 20:55									
<u>NWTPH-Dx</u>												
Diesel	101000	10000	25000	ug/kg wet	1	125000	---	81	38-132%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<b>Duplicate (22I0046-DUP1)</b>			Prepared: 09/02/22 06:23 Analyzed: 09/02/22 22:05									
<u>QC Source Sample: FC-082222-1968 (A2H0778-01)</u>												
<u>NWTPH-Dx</u>												
Diesel	<b>8900000</b>	49100	98200	ug/kg dry	1	---	8490000	---	---	5	30%	
Oil	ND	98200	196000	ug/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (22H0945-BLK1)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 14:14									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	1670	3330	ug/kg wet	50	---	---	---	---	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 105 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>95 %</i>		<i>50-150 %</i>		<i>"</i>						
<b>LCS (22H0945-BS2)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 11:52									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	24200	2500	5000	ug/kg wet	50	25000	---	97	80-120%	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 106 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>95 %</i>		<i>50-150 %</i>		<i>"</i>						
<b>Duplicate (22H0945-DUP1)</b>			Prepared: 08/15/22 12:00 Analyzed: 08/26/22 15:56									
<u>QC Source Sample: Non-SDG (A2H0482-01)</u>												
Gasoline Range Organics	<b>63300</b>	6670	13300	ug/kg dry	50	---	61400	---	---	3	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 113 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>97 %</i>		<i>50-150 %</i>		<i>"</i>						

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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (22H0945-BLK1)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 14:14									
<u>5035A/8260D</u>												
Acetone	ND	667	667	ug/kg wet	50	---	---	---	---	---	---	ICV-02
Acrylonitrile	ND	66.7	66.7	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	3.33	6.67	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	33.3	66.7	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	333	333	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	333	333	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	167	333	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	333	333	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	167	167	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	33.3	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	83.3	167	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	33.3	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (22H0945-BLK1)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 14:14									
1,2-Dichloropropane	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	33.3	66.7	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	333	333	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	167	333	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	167	333	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	83.3	167	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	83.3	167	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	83.3	167	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	33.3	66.7	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr)      Recovery: 97%      Limits: 80-120%      Dilution: 1x

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

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Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (22H0945-BLK1)</b>						Prepared: 08/26/22 08:20 Analyzed: 08/26/22 14:14						
<i>Surr: Toluene-d8 (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>79-120 %</i>		<i>"</i>						
<b>LCS (22H0945-BS1)</b>						Prepared: 08/26/22 08:20 Analyzed: 08/26/22 12:43						
<b>5035A/8260D</b>												
Acetone	1170	1000	1000	ug/kg wet	50	2000	---	59	80-120%	---	---	ICV-02, Q-55
Acrylonitrile	794	100	100	ug/kg wet	50	1000	---	79	80-120%	---	---	Q-55
Benzene	898	5.00	10.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
Bromobenzene	946	12.5	25.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
Bromochloromethane	866	25.0	50.0	ug/kg wet	50	1000	---	87	80-120%	---	---	
Bromodichloromethane	932	25.0	50.0	ug/kg wet	50	1000	---	93	80-120%	---	---	
Bromoform	1000	50.0	100	ug/kg wet	50	1000	---	100	80-120%	---	---	
Bromomethane	1120	500	500	ug/kg wet	50	1000	---	112	80-120%	---	---	
2-Butanone (MEK)	1480	500	500	ug/kg wet	50	2000	---	74	80-120%	---	---	Q-55
n-Butylbenzene	904	25.0	50.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
sec-Butylbenzene	876	25.0	50.0	ug/kg wet	50	1000	---	88	80-120%	---	---	
tert-Butylbenzene	904	25.0	50.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
Carbon disulfide	1140	250	500	ug/kg wet	50	1000	---	114	80-120%	---	---	
Carbon tetrachloride	973	25.0	50.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Chlorobenzene	915	12.5	25.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
Chloroethane	782	500	500	ug/kg wet	50	1000	---	78	80-120%	---	---	Q-55
Chloroform	911	25.0	50.0	ug/kg wet	50	1000	---	91	80-120%	---	---	
Chloromethane	754	250	250	ug/kg wet	50	1000	---	75	80-120%	---	---	Q-55
2-Chlorotoluene	997	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
4-Chlorotoluene	1030	25.0	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Dibromochloromethane	1000	50.0	100	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,2-Dibromo-3-chloropropane	866	125	250	ug/kg wet	50	1000	---	87	80-120%	---	---	
1,2-Dibromoethane (EDB)	997	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Dibromomethane	920	25.0	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
1,2-Dichlorobenzene	990	12.5	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
1,3-Dichlorobenzene	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,4-Dichlorobenzene	939	12.5	25.0	ug/kg wet	50	1000	---	94	80-120%	---	---	
Dichlorodifluoromethane	824	50.0	100	ug/kg wet	50	1000	---	82	80-120%	---	---	
1,1-Dichloroethane	870	12.5	25.0	ug/kg wet	50	1000	---	87	80-120%	---	---	

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (22H0945-BS1)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 12:43									
1,2-Dichloroethane (EDC)	934	12.5	25.0	ug/kg wet	50	1000	---	93	80-120%	---	---	
1,1-Dichloroethene	1110	12.5	25.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
cis-1,2-Dichloroethene	890	12.5	25.0	ug/kg wet	50	1000	---	89	80-120%	---	---	
trans-1,2-Dichloroethene	818	12.5	25.0	ug/kg wet	50	1000	---	82	80-120%	---	---	
1,2-Dichloropropane	844	12.5	25.0	ug/kg wet	50	1000	---	84	80-120%	---	---	
1,3-Dichloropropane	924	25.0	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
2,2-Dichloropropane	1180	25.0	50.0	ug/kg wet	50	1000	---	118	80-120%	---	---	
1,1-Dichloropropene	962	25.0	50.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
cis-1,3-Dichloropropene	1160	25.0	50.0	ug/kg wet	50	1000	---	116	80-120%	---	---	
trans-1,3-Dichloropropene	1140	25.0	50.0	ug/kg wet	50	1000	---	114	80-120%	---	---	
Ethylbenzene	998	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Hexachlorobutadiene	874	50.0	100	ug/kg wet	50	1000	---	87	80-120%	---	---	
2-Hexanone	1380	500	500	ug/kg wet	50	2000	---	<b>69</b>	<b>80-120%</b>	---	---	Q-55
Isopropylbenzene	953	25.0	50.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
4-Isopropyltoluene	917	25.0	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
Methylene chloride	930	250	500	ug/kg wet	50	1000	---	93	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	1780	250	500	ug/kg wet	50	2000	---	89	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1010	25.0	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Naphthalene	1120	125	250	ug/kg wet	50	1000	---	112	80-120%	---	---	
n-Propylbenzene	942	12.5	25.0	ug/kg wet	50	1000	---	94	80-120%	---	---	
Styrene	925	25.0	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
1,1,1,2-Tetrachloroethane	999	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,1,2,2-Tetrachloroethane	832	25.0	50.0	ug/kg wet	50	1000	---	83	80-120%	---	---	
Tetrachloroethene (PCE)	1090	12.5	25.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
Toluene	916	25.0	50.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
1,2,3-Trichlorobenzene	1120	125	250	ug/kg wet	50	1000	---	112	80-120%	---	---	
1,2,4-Trichlorobenzene	1170	125	250	ug/kg wet	50	1000	---	117	80-120%	---	---	
1,1,1-Trichloroethane	962	12.5	25.0	ug/kg wet	50	1000	---	96	80-120%	---	---	
1,1,2-Trichloroethane	900	12.5	25.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
Trichloroethene (TCE)	940	12.5	25.0	ug/kg wet	50	1000	---	94	80-120%	---	---	
Trichlorofluoromethane	1080	50.0	100	ug/kg wet	50	1000	---	108	80-120%	---	---	
1,2,3-Trichloropropane	858	25.0	50.0	ug/kg wet	50	1000	---	86	80-120%	---	---	
1,2,4-Trimethylbenzene	936	25.0	50.0	ug/kg wet	50	1000	---	94	80-120%	---	---	
1,3,5-Trimethylbenzene	926	25.0	50.0	ug/kg wet	50	1000	---	93	80-120%	---	---	

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street  
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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (22H0945-BS1)</b>			Prepared: 08/26/22 08:20 Analyzed: 08/26/22 12:43									
Vinyl chloride	804	12.5	25.0	ug/kg wet	50	1000	---	80	80-120%	---	---	
m,p-Xylene	1930	25.0	50.0	ug/kg wet	50	2000	---	97	80-120%	---	---	
o-Xylene	966	12.5	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

<b>Duplicate (22H0945-DUP1)</b>						Prepared: 08/15/22 12:00 Analyzed: 08/26/22 15:56						
<b>QC Source Sample: Non-SDG (A2H0482-01)</b>												
Acetone	ND	2670	2670	ug/kg dry	50	---	ND	---	---	---	30%	ICV-02
Acrylonitrile	ND	267	267	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	13.3	26.7	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	133	267	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	1330	1330	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	1330	1330	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	667	1330	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	1330	1330	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	667	667	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	133	267	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	333	667	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	

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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Duplicate (22H0945-DUP1)</b>			Prepared: 08/15/22 12:00 Analyzed: 08/26/22 15:56									
<b>QC Source Sample: Non-SDG (A2H0482-01)</b>												
1,3-Dichlorobenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	133	267	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	133	267	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	1330	1330	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	667	1330	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	667	1330	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	<b>351</b>	333	667	ug/kg dry	50	---	347	---	---	1	30%	J
n-Propylbenzene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	333	667	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	333	667	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Duplicate (22H0945-DUP1)</b>			Prepared: 08/15/22 12:00 Analyzed: 08/26/22 15:56									
<b>QC Source Sample: Non-SDG (A2H0482-01)</b>												
Trichloroethene (TCE)	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	133	267	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	<b>80.0</b>	66.7	133	ug/kg dry	50	---	77.4	---	---	3	30%	J
1,3,5-Trimethylbenzene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	66.7	133	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	33.3	66.7	ug/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>79-120 %</i>		<i>"</i>						

<b>Matrix Spike (22H0945-MS1)</b>						Prepared: 08/24/22 15:30 Analyzed: 08/26/22 18:03						
<b>QC Source Sample: Non-SDG (A2H0842-01)</b>												
<b>5035A/8260D</b>												
Acetone	ND	955	955	ug/kg dry	50	1620	ND		<b>36-164%</b>	---	---	ICV-02, Q-54c
Acrylonitrile	675	95.5	95.5	ug/kg dry	50	810	ND	83	65-134%	---	---	Q-54
Benzene	734	4.77	9.55	ug/kg dry	50	810	ND	91	77-121%	---	---	
Bromobenzene	801	11.9	23.9	ug/kg dry	50	810	ND	99	78-121%	---	---	
Bromochloromethane	734	23.9	47.7	ug/kg dry	50	810	ND	91	78-125%	---	---	
Bromodichloromethane	750	23.9	47.7	ug/kg dry	50	810	ND	93	75-127%	---	---	
Bromoform	785	47.7	95.5	ug/kg dry	50	810	ND	97	67-132%	---	---	
Bromomethane	928	477	477	ug/kg dry	50	810	ND	115	53-143%	---	---	
2-Butanone (MEK)	1120	477	477	ug/kg dry	50	1620	ND	69	51-148%	---	---	Q-54e
n-Butylbenzene	709	23.9	47.7	ug/kg dry	50	810	ND	88	70-128%	---	---	
sec-Butylbenzene	701	23.9	47.7	ug/kg dry	50	810	ND	87	73-126%	---	---	
tert-Butylbenzene	731	23.9	47.7	ug/kg dry	50	810	ND	90	73-125%	---	---	
Carbon disulfide	949	239	477	ug/kg dry	50	810	ND	117	63-132%	---	---	
Carbon tetrachloride	764	23.9	47.7	ug/kg dry	50	810	ND	94	70-135%	---	---	
Chlorobenzene	756	11.9	23.9	ug/kg dry	50	810	ND	93	79-120%	---	---	
Chloroethane	813	477	477	ug/kg dry	50	810	ND	100	59-139%	---	---	Q-54b
Chloroform	750	23.9	47.7	ug/kg dry	50	810	ND	93	78-123%	---	---	

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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (22H0945-MS1)</b>			Prepared: 08/24/22 15:30 Analyzed: 08/26/22 18:03									
<b>QC Source Sample: Non-SDG (A2H0842-01)</b>												
Chloromethane	621	239	239	ug/kg dry	50	810	ND	77	50-136%	---	---	Q-54d
2-Chlorotoluene	849	23.9	47.7	ug/kg dry	50	810	ND	105	75-122%	---	---	
4-Chlorotoluene	860	23.9	47.7	ug/kg dry	50	810	ND	106	72-124%	---	---	
Dibromochloromethane	810	47.7	95.5	ug/kg dry	50	810	ND	100	74-126%	---	---	
1,2-Dibromo-3-chloropropane	706	119	239	ug/kg dry	50	810	ND	87	61-132%	---	---	
1,2-Dibromoethane (EDB)	811	23.9	47.7	ug/kg dry	50	810	ND	100	78-122%	---	---	
Dibromomethane	764	23.9	47.7	ug/kg dry	50	810	ND	94	78-125%	---	---	
1,2-Dichlorobenzene	837	11.9	23.9	ug/kg dry	50	810	ND	103	78-121%	---	---	
1,3-Dichlorobenzene	846	11.9	23.9	ug/kg dry	50	810	ND	105	77-121%	---	---	
1,4-Dichlorobenzene	806	11.9	23.9	ug/kg dry	50	810	ND	100	75-120%	---	---	
Dichlorodifluoromethane	678	47.7	95.5	ug/kg dry	50	810	ND	84	29-149%	---	---	
1,1-Dichloroethane	717	11.9	23.9	ug/kg dry	50	810	ND	88	76-125%	---	---	
1,2-Dichloroethane (EDC)	753	11.9	23.9	ug/kg dry	50	810	ND	93	73-128%	---	---	
1,1-Dichloroethene	879	11.9	23.9	ug/kg dry	50	810	ND	109	70-131%	---	---	
cis-1,2-Dichloroethene	726	11.9	23.9	ug/kg dry	50	810	ND	90	77-123%	---	---	
trans-1,2-Dichloroethene	664	11.9	23.9	ug/kg dry	50	810	ND	82	74-125%	---	---	
1,2-Dichloropropane	708	11.9	23.9	ug/kg dry	50	810	ND	87	76-123%	---	---	
1,3-Dichloropropane	764	23.9	47.7	ug/kg dry	50	810	ND	94	77-121%	---	---	
2,2-Dichloropropane	878	23.9	47.7	ug/kg dry	50	810	ND	108	67-133%	---	---	
1,1-Dichloropropene	752	23.9	47.7	ug/kg dry	50	810	ND	93	76-125%	---	---	
cis-1,3-Dichloropropene	928	23.9	47.7	ug/kg dry	50	810	ND	115	74-126%	---	---	
trans-1,3-Dichloropropene	895	23.9	47.7	ug/kg dry	50	810	ND	111	71-130%	---	---	
Ethylbenzene	796	11.9	23.9	ug/kg dry	50	810	ND	98	76-122%	---	---	
Hexachlorobutadiene	658	47.7	95.5	ug/kg dry	50	810	ND	81	61-135%	---	---	
2-Hexanone	1050	477	477	ug/kg dry	50	1620	ND	65	53-145%	---	---	Q-54a
Isopropylbenzene	744	23.9	47.7	ug/kg dry	50	810	ND	92	68-134%	---	---	
4-Isopropyltoluene	719	23.9	47.7	ug/kg dry	50	810	ND	89	73-127%	---	---	
Methylene chloride	756	239	477	ug/kg dry	50	810	ND	93	70-128%	---	---	
4-Methyl-2-pentanone (MiBK)	1400	239	477	ug/kg dry	50	1620	ND	86	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	798	23.9	47.7	ug/kg dry	50	810	ND	99	73-125%	---	---	
Naphthalene	913	119	239	ug/kg dry	50	810	ND	113	62-129%	---	---	
n-Propylbenzene	782	11.9	23.9	ug/kg dry	50	810	ND	97	73-125%	---	---	
Styrene	751	23.9	47.7	ug/kg dry	50	810	ND	93	76-124%	---	---	

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Darwin Thomas, Business Development Director



ANALYTICAL REPORT

**Apex Laboratories, LLC**

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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Volatile Organic Compounds by EPA 8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0945 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (22H0945-MS1)</b>			Prepared: 08/24/22 15:30 Analyzed: 08/26/22 18:03									
<b>QC Source Sample: Non-SDG (A2H0842-01)</b>												
1,1,1,2-Tetrachloroethane	828	11.9	23.9	ug/kg dry	50	810	ND	102	78-125%	---	---	
1,1,2,2-Tetrachloroethane	722	23.9	47.7	ug/kg dry	50	810	ND	89	70-124%	---	---	
Tetrachloroethene (PCE)	856	11.9	23.9	ug/kg dry	50	810	ND	106	73-128%	---	---	
Toluene	746	23.9	47.7	ug/kg dry	50	810	ND	92	77-121%	---	---	
1,2,3-Trichlorobenzene	882	119	239	ug/kg dry	50	810	ND	109	66-130%	---	---	
1,2,4-Trichlorobenzene	923	119	239	ug/kg dry	50	810	ND	114	67-129%	---	---	
1,1,1-Trichloroethane	759	11.9	23.9	ug/kg dry	50	810	ND	94	73-130%	---	---	
1,1,2-Trichloroethane	757	11.9	23.9	ug/kg dry	50	810	ND	93	78-121%	---	---	
Trichloroethene (TCE)	739	11.9	23.9	ug/kg dry	50	810	ND	91	77-123%	---	---	
Trichlorofluoromethane	3190	47.7	95.5	ug/kg dry	50	810	ND	<b>394</b>	<b>62-140%</b>	---	---	Q-01
1,2,3-Trichloropropane	721	23.9	47.7	ug/kg dry	50	810	ND	89	73-125%	---	---	
1,2,4-Trimethylbenzene	778	23.9	47.7	ug/kg dry	50	810	ND	96	75-123%	---	---	
1,3,5-Trimethylbenzene	765	23.9	47.7	ug/kg dry	50	810	ND	94	73-124%	---	---	
Vinyl chloride	678	11.9	23.9	ug/kg dry	50	810	ND	84	56-135%	---	---	
m,p-Xylene	1520	23.9	47.7	ug/kg dry	50	1620	ND	94	77-124%	---	---	
o-Xylene	768	11.9	23.9	ug/kg dry	50	810	ND	95	77-123%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

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Darwin Thomas, Business Development Director



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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Regulated TCLP Volatile Organic Compounds by EPA 1311/8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 2210073 - EPA 1311/5030B TCLP Volatiles</b>						<b>Water</b>						
<b>Blank (2210073-BLK1)</b>						Prepared: 09/02/22 13:32 Analyzed: 09/02/22 15:25						<b>TCLPb</b>
<u>1311/8260D</u>												
Benzene	ND	6.25	12.5	ug/L	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	250	500	ug/L	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Chlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Chloroform	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Vinyl chloride	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>"</i>						
<b>LCS (2210073-BS1)</b>						Prepared: 09/02/22 13:32 Analyzed: 09/02/22 14:42						<b>TCLPb</b>
<u>1311/8260D</u>												
Benzene	1160	6.25	12.5	ug/L	50	1000	---	116	80-120%	---	---	
2-Butanone (MEK)	2300	250	500	ug/L	50	2000	---	115	80-120%	---	---	
Carbon tetrachloride	1190	25.0	50.0	ug/L	50	1000	---	119	80-120%	---	---	
Chlorobenzene	1040	12.5	25.0	ug/L	50	1000	---	104	80-120%	---	---	
Chloroform	1070	25.0	50.0	ug/L	50	1000	---	107	80-120%	---	---	
1,4-Dichlorobenzene	1010	12.5	25.0	ug/L	50	1000	---	101	80-120%	---	---	
1,1-Dichloroethene	1190	12.5	25.0	ug/L	50	1000	---	119	80-120%	---	---	
1,2-Dichloroethane (EDC)	962	12.5	25.0	ug/L	50	1000	---	96	80-120%	---	---	
Tetrachloroethene (PCE)	1090	12.5	25.0	ug/L	50	1000	---	109	80-120%	---	---	
Trichloroethene (TCE)	1160	12.5	25.0	ug/L	50	1000	---	116	80-120%	---	---	
Vinyl chloride	1170	12.5	25.0	ug/L	50	1000	---	117	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<b>Duplicate (2210073-DUP1)</b>						Prepared: 09/02/22 13:32 Analyzed: 09/02/22 16:08						

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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Regulated TCLP Volatile Organic Compounds by EPA 1311/8260D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 2210073 - EPA 1311/5030B TCLP Volatiles</b>						<b>Water</b>						
<b>Duplicate (2210073-DUP1)</b>			Prepared: 09/02/22 13:32 Analyzed: 09/02/22 16:08									
<b>QC Source Sample: Non-SDG (A2H0774-01)</b>												
Benzene	ND	6.25	12.5	ug/L	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	250	500	ug/L	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Chloroform	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						

<b>Matrix Spike (2210073-MS1)</b>			Prepared: 09/02/22 13:32 Analyzed: 09/02/22 17:12									
<b>QC Source Sample: FC-082222-1968 (A2H0778-01)</b>												
<b>1311/8260D</b>												
Benzene	1060	6.25	12.5	ug/L	50	1000	ND	106	79-120%	---	---	
2-Butanone (MEK)	2130	250	500	ug/L	50	2000	ND	106	56-143%	---	---	
Carbon tetrachloride	1220	25.0	50.0	ug/L	50	1000	ND	122	72-136%	---	---	
Chlorobenzene	1010	12.5	25.0	ug/L	50	1000	ND	101	80-120%	---	---	
Chloroform	1050	25.0	50.0	ug/L	50	1000	ND	105	79-124%	---	---	
1,4-Dichlorobenzene	969	12.5	25.0	ug/L	50	1000	ND	97	79-120%	---	---	
1,1-Dichloroethene	1180	12.5	25.0	ug/L	50	1000	ND	118	71-131%	---	---	
1,2-Dichloroethane (EDC)	988	12.5	25.0	ug/L	50	1000	ND	99	73-128%	---	---	
Tetrachloroethene (PCE)	1060	12.5	25.0	ug/L	50	1000	ND	106	74-129%	---	---	
Trichloroethene (TCE)	1060	12.5	25.0	ug/L	50	1000	ND	106	79-123%	---	---	
Vinyl chloride	1070	12.5	25.0	ug/L	50	1000	ND	107	58-137%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>Blank (22H1078-BLK1)</b>			Prepared: 08/31/22 08:41 Analyzed: 08/31/22 13:31									
<u>EPA 8270E</u>												
Acenaphthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>Blank (22H1078-BLK1)</b>			Prepared: 08/31/22 08:41			Analyzed: 08/31/22 13:31						
2,3,5,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	18.7	37.5	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	<b>326</b>	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	B
Di-n-octyl phthalate	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Benzoic acid	ND	157	312	ug/kg wet	1	---	---	---	---	---	---	
Benzyl alcohol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	

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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>Blank (22H1078-BLK1)</b>			Prepared: 08/31/22 08:41			Analyzed: 08/31/22 13:31						
Azobenzene (1,2-DPH)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 49 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>55 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>47 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>67 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>50 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>61 %</i>		<i>39-132 %</i>		<i>"</i>						

<b>LCS (22H1078-BS1)</b>						Prepared: 08/31/22 08:41						Analyzed: 08/31/22 14:07						<b>Q-18</b>
<b>EPA 8270E</b>																		
Acenaphthene	454	5.32	10.7	ug/kg wet	4	533	---	85	40-123%	---	---							
Acenaphthylene	464	5.32	10.7	ug/kg wet	4	533	---	87	32-132%	---	---							
Anthracene	481	5.32	10.7	ug/kg wet	4	533	---	90	47-123%	---	---							
Benz(a)anthracene	460	5.32	10.7	ug/kg wet	4	533	---	86	49-126%	---	---							
Benzo(a)pyrene	477	8.00	16.0	ug/kg wet	4	533	---	89	45-129%	---	---							
Benzo(b)fluoranthene	490	8.00	16.0	ug/kg wet	4	533	---	92	45-132%	---	---							
Benzo(k)fluoranthene	486	8.00	16.0	ug/kg wet	4	533	---	91	47-132%	---	---							
Benzo(g,h,i)perylene	461	5.32	10.7	ug/kg wet	4	533	---	86	43-134%	---	---							
Chrysene	466	5.32	10.7	ug/kg wet	4	533	---	87	50-124%	---	---							
Dibenz(a,h)anthracene	455	5.32	10.7	ug/kg wet	4	533	---	85	45-134%	---	---							
Fluoranthene	476	5.32	10.7	ug/kg wet	4	533	---	89	50-127%	---	---							
Fluorene	477	5.32	10.7	ug/kg wet	4	533	---	89	43-125%	---	---							
Indeno(1,2,3-cd)pyrene	456	5.32	10.7	ug/kg wet	4	533	---	85	45-133%	---	---							
1-Methylnaphthalene	462	10.7	21.3	ug/kg wet	4	533	---	87	40-120%	---	---							
2-Methylnaphthalene	464	10.7	21.3	ug/kg wet	4	533	---	87	38-122%	---	---							

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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>LCS (22H1078-BS1)</b>						Prepared: 08/31/22 08:41 Analyzed: 08/31/22 14:07						<b>Q-18</b>
Naphthalene	434	10.7	21.3	ug/kg wet	4	533	---	81	35-123%	---	---	
Phenanthrene	461	5.32	10.7	ug/kg wet	4	533	---	86	50-121%	---	---	
Pyrene	478	5.32	10.7	ug/kg wet	4	533	---	90	47-127%	---	---	
Carbazole	466	8.00	16.0	ug/kg wet	4	533	---	87	50-123%	---	---	
Dibenzofuran	464	5.32	10.7	ug/kg wet	4	533	---	87	44-120%	---	---	
2-Chlorophenol	387	26.7	53.2	ug/kg wet	4	533	---	73	34-121%	---	---	
4-Chloro-3-methylphenol	496	53.2	107	ug/kg wet	4	533	---	93	45-122%	---	---	
2,4-Dichlorophenol	452	26.7	53.2	ug/kg wet	4	533	---	85	40-122%	---	---	
2,4-Dimethylphenol	472	26.7	53.2	ug/kg wet	4	533	---	89	30-127%	---	---	
2,4-Dinitrophenol	430	133	267	ug/kg wet	4	533	---	81	10-137%	---	---	
4,6-Dinitro-2-methylphenol	482	133	267	ug/kg wet	4	533	---	90	29-132%	---	---	
2-Methylphenol	394	13.3	26.7	ug/kg wet	4	533	---	74	32-122%	---	---	
3+4-Methylphenol(s)	418	13.3	26.7	ug/kg wet	4	533	---	78	34-120%	---	---	
2-Nitrophenol	451	53.2	107	ug/kg wet	4	533	---	85	36-123%	---	---	
4-Nitrophenol	313	53.2	107	ug/kg wet	4	533	---	59	30-132%	---	---	Q-31
Pentachlorophenol (PCP)	446	53.2	107	ug/kg wet	4	533	---	84	25-133%	---	---	
Phenol	367	10.7	21.3	ug/kg wet	4	533	---	69	34-121%	---	---	
2,3,4,6-Tetrachlorophenol	491	26.7	53.2	ug/kg wet	4	533	---	92	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	474	26.7	53.2	ug/kg wet	4	533	---	89	40-120%	---	---	
2,4,5-Trichlorophenol	482	26.7	53.2	ug/kg wet	4	533	---	90	41-124%	---	---	
Nitrobenzene	363	53.2	107	ug/kg wet	4	533	---	68	34-122%	---	---	
2,4,6-Trichlorophenol	482	26.7	53.2	ug/kg wet	4	533	---	90	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	469	80.0	160	ug/kg wet	4	533	---	88	51-133%	---	---	
Butyl benzyl phthalate	464	53.2	107	ug/kg wet	4	533	---	87	48-132%	---	---	
Diethylphthalate	465	53.2	107	ug/kg wet	4	533	---	87	50-124%	---	---	
Dimethylphthalate	473	53.2	107	ug/kg wet	4	533	---	89	48-124%	---	---	
Di-n-butylphthalate	790	53.2	107	ug/kg wet	4	533	---	<b>148</b>	<b>51-128%</b>	---	---	B, Q-29
Di-n-octyl phthalate	461	53.2	107	ug/kg wet	4	533	---	86	45-140%	---	---	
N-Nitrosodimethylamine	340	13.3	26.7	ug/kg wet	4	533	---	64	23-120%	---	---	
N-Nitroso-di-n-propylamine	402	13.3	26.7	ug/kg wet	4	533	---	75	36-120%	---	---	
N-Nitrosodiphenylamine	493	13.3	26.7	ug/kg wet	4	533	---	92	38-127%	---	---	
Bis(2-Chloroethoxy) methane	405	13.3	26.7	ug/kg wet	4	533	---	76	36-121%	---	---	
Bis(2-Chloroethyl) ether	358	13.3	26.7	ug/kg wet	4	533	---	67	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	357	13.3	26.7	ug/kg wet	4	533	---	67	39-120%	---	---	

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>							
<b>LCS (22H1078-BS1)</b>			Prepared: 08/31/22 08:41 Analyzed: 08/31/22 14:07						<b>Q-18</b>				
Hexachlorobenzene	489	5.32	10.7	ug/kg wet	4	533	---	92	45-122%	---	---		
Hexachlorobutadiene	450	13.3	26.7	ug/kg wet	4	533	---	84	32-123%	---	---		
Hexachlorocyclopentadiene	445	26.7	53.2	ug/kg wet	4	533	---	84	10-140%	---	---		
Hexachloroethane	434	13.3	26.7	ug/kg wet	4	533	---	81	28-120%	---	---		
2-Chloronaphthalene	433	5.32	10.7	ug/kg wet	4	533	---	81	41-120%	---	---		
1,2,4-Trichlorobenzene	454	13.3	26.7	ug/kg wet	4	533	---	85	34-120%	---	---		
4-Bromophenyl phenyl ether	488	13.3	26.7	ug/kg wet	4	533	---	92	46-124%	---	---		
4-Chlorophenyl phenyl ether	486	13.3	26.7	ug/kg wet	4	533	---	91	45-121%	---	---		
Aniline	339	26.7	53.2	ug/kg wet	4	533	---	64	10-120%	---	---	Q-31	
4-Chloroaniline	379	13.3	26.7	ug/kg wet	4	533	---	71	17-120%	---	---		
2-Nitroaniline	447	107	213	ug/kg wet	4	533	---	84	44-127%	---	---		
3-Nitroaniline	408	107	213	ug/kg wet	4	533	---	76	33-120%	---	---		
4-Nitroaniline	384	107	213	ug/kg wet	4	533	---	72	51-125%	---	---		
2,4-Dinitrotoluene	476	53.2	107	ug/kg wet	4	533	---	89	48-126%	---	---		
2,6-Dinitrotoluene	486	53.2	107	ug/kg wet	4	533	---	91	46-124%	---	---		
Benzoic acid	459	400	1330	ug/kg wet	4	1070	---	43	10-140%	---	---	J, Q-31	
Benzyl alcohol	348	26.7	53.2	ug/kg wet	4	533	---	65	29-122%	---	---		
Isophorone	419	13.3	26.7	ug/kg wet	4	533	---	79	30-122%	---	---		
Azobenzene (1,2-DPH)	436	13.3	26.7	ug/kg wet	4	533	---	82	39-125%	---	---		
Bis(2-Ethylhexyl) adipate	454	133	267	ug/kg wet	4	533	---	85	61-121%	---	---		
3,3'-Dichlorobenzidine	3490	107	213	ug/kg wet	4	1070	---	<b>327</b>	<b>22-121%</b>	---	---	Q-29, Q-41	
1,2-Dinitrobenzene	489	133	267	ug/kg wet	4	533	---	92	44-120%	---	---		
1,3-Dinitrobenzene	450	133	267	ug/kg wet	4	533	---	84	43-127%	---	---		
1,4-Dinitrobenzene	429	133	267	ug/kg wet	4	533	---	81	37-132%	---	---		
Pyridine	344	26.7	53.2	ug/kg wet	4	533	---	64	10-120%	---	---		
1,2-Dichlorobenzene	413	13.3	26.7	ug/kg wet	4	533	---	77	33-120%	---	---		
1,3-Dichlorobenzene	409	13.3	26.7	ug/kg wet	4	533	---	77	30-120%	---	---		
1,4-Dichlorobenzene	412	13.3	26.7	ug/kg wet	4	533	---	77	31-120%	---	---		
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 62 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>							
<i>2-Fluorobiphenyl (Surr)</i>		<i>78 %</i>		<i>44-120 %</i>		<i>"</i>							
<i>Phenol-d6 (Surr)</i>		<i>64 %</i>		<i>33-122 %</i>		<i>"</i>							
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>54-127 %</i>		<i>"</i>							
<i>2-Fluorophenol (Surr)</i>		<i>60 %</i>		<i>35-120 %</i>		<i>"</i>							
<i>2,4,6-Tribromophenol (Surr)</i>		<i>91 %</i>		<i>39-132 %</i>		<i>"</i>							

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ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b>	Project: <b>Gasco -- Filtercake</b>	
2749 Lockport Road	Project Number: <b>111323</b>	<b>Report ID:</b>
Niagara Falls, NY 14305	Project Manager: <b>Chip Byrd</b>	<b>A2H0778 - 09 08 22 0746</b>

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>							<b>Solid</b>					
<b>Duplicate (22H1078-DUP1)</b>			Prepared: 08/31/22 08:41 Analyzed: 08/31/22 15:20									
<b>QC Source Sample: FC-082222-1968 (A2H0778-01)</b>												
<b>EPA 8270E</b>												
Acenaphthene	26300	1300	2610	ug/kg dry	200	---	48400	---	---	59	30%	Q-04
Acenaphthylene	ND	2940	2940	ug/kg dry	200	---	ND	---	---	---	30%	R-02
Anthracene	27500	1300	2610	ug/kg dry	200	---	54200	---	---	65	30%	Q-04
Benz(a)anthracene	16500	1300	2610	ug/kg dry	200	---	33300	---	---	67	30%	Q-04
Benzo(a)pyrene	17800	1960	3910	ug/kg dry	200	---	36100	---	---	68	30%	Q-04
Benzo(b)fluoranthene	15000	1960	3910	ug/kg dry	200	---	30100	---	---	67	30%	Q-04
Benzo(k)fluoranthene	5830	1960	3910	ug/kg dry	200	---	10900	---	---	60	30%	M-05, Q-04
Benzo(g,h,i)perylene	11800	1300	2610	ug/kg dry	200	---	23500	---	---	66	30%	Q-04
Chrysene	22700	1300	2610	ug/kg dry	200	---	44900	---	---	66	30%	Q-04
Dibenz(a,h)anthracene	ND	1300	2610	ug/kg dry	200	---	2290	---	---	***	30%	Q-04
Fluoranthene	78400	1300	2610	ug/kg dry	200	---	155000	---	---	66	30%	Q-04
Fluorene	19200	1300	2610	ug/kg dry	200	---	36800	---	---	63	30%	Q-04
Indeno(1,2,3-cd)pyrene	10800	1300	2610	ug/kg dry	200	---	21100	---	---	64	30%	Q-04
1-Methylnaphthalene	6070	2610	5220	ug/kg dry	200	---	9460	---	---	44	30%	Q-04
2-Methylnaphthalene	ND	2610	5220	ug/kg dry	200	---	ND	---	---	---	30%	
Naphthalene	ND	2610	5220	ug/kg dry	200	---	ND	---	---	---	30%	
Phenanthrene	141000	1300	2610	ug/kg dry	200	---	269000	---	---	62	30%	Q-04
Pyrene	93800	1300	2610	ug/kg dry	200	---	187000	---	---	66	30%	Q-04
Carbazole	ND	1960	3910	ug/kg dry	200	---	ND	---	---	---	30%	
Dibenzofuran	1770	1300	2610	ug/kg dry	200	---	3350	---	---	62	30%	J, Q-04
2-Chlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
2-Methylphenol	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
2-Nitrophenol	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
4-Nitrophenol	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	

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ANALYTICAL REPORT

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503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>Duplicate (22H1078-DUP1)</b>			Prepared: 08/31/22 08:41 Analyzed: 08/31/22 15:20									
<b>QC Source Sample: FC-082222-1968 (A2H0778-01)</b>												
Phenol	ND	2610	5220	ug/kg dry	200	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
Nitrobenzene	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	19600	39100	ug/kg dry	200	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
Diethylphthalate	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
Dimethylphthalate	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	1300	2610	ug/kg dry	200	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
Hexachloroethane	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	1300	2610	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Aniline	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
4-Chloroaniline	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
2-Nitroaniline	ND	26100	52200	ug/kg dry	200	---	ND	---	---	---	30%	
3-Nitroaniline	ND	26100	52200	ug/kg dry	200	---	ND	---	---	---	30%	
4-Nitroaniline	ND	26100	52200	ug/kg dry	200	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	13000	26100	ug/kg dry	200	---	ND	---	---	---	30%	

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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Semivolatile Organic Compounds by EPA 8270E**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H1078 - EPA 3546</b>						<b>Solid</b>						
<b>Duplicate (22H1078-DUP1)</b>			Prepared: 08/31/22 08:41 Analyzed: 08/31/22 15:20									
<b>QC Source Sample: FC-082222-1968 (A2H0778-01)</b>												
Benzoic acid	ND	163000	326000	ug/kg dry	200	---	ND	---	---	---	30%	
Benzyl alcohol	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
Isophorone	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	26100	52200	ug/kg dry	200	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	32600	65300	ug/kg dry	200	---	ND	---	---	---	30%	
Pyridine	ND	6530	13000	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	3260	6530	ug/kg dry	200	---	ND	---	---	---	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 6 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 200x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>49 %</i>		<i>44-120 %</i>		<i>"</i>		<i>S-05</i>				
<i>Phenol-d6 (Surr)</i>		<i>%</i>		<i>33-122 %</i>		<i>"</i>		<i>S-01</i>				
<i>p-Terphenyl-d14 (Surr)</i>		<i>63 %</i>		<i>54-127 %</i>		<i>"</i>		<i>S-05</i>				
<i>2-Fluorophenol (Surr)</i>		<i>108 %</i>		<i>35-120 %</i>		<i>"</i>		<i>S-05</i>				
<i>2,4,6-Tribromophenol (Surr)</i>		<i>%</i>		<i>39-132 %</i>		<i>"</i>		<i>S-01</i>				

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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Total Metals by EPA 6020B (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0947 - EPA 3051A</b>						<b>Solid</b>						
<b>Blank (22H0947-BLK1)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/27/22 02:37									
<u>EPA 6020B</u>												
Arsenic	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Barium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	
Chromium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Mercury	ND	40.0	80.0	ug/kg wet	10	---	---	---	---	---	---	
Selenium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Silver	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	
<b>Blank (22H0947-BLK2)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/29/22 15:25									
<u>EPA 6020B</u>												
Lead	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	Q-16
<b>LCS (22H0947-BS1)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/27/22 02:42									
<u>EPA 6020B</u>												
Arsenic	49300	500	1000	ug/kg wet	10	50000	---	99	80-120%	---	---	
Barium	49000	500	1000	ug/kg wet	10	50000	---	98	80-120%	---	---	
Cadmium	50900	100	200	ug/kg wet	10	50000	---	102	80-120%	---	---	
Chromium	49100	500	1000	ug/kg wet	10	50000	---	98	80-120%	---	---	
Mercury	962	40.0	80.0	ug/kg wet	10	1000	---	96	80-120%	---	---	
Selenium	26900	500	1000	ug/kg wet	10	25000	---	108	80-120%	---	---	
Silver	26300	100	200	ug/kg wet	10	25000	---	105	80-120%	---	---	
<b>LCS (22H0947-BS2)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/29/22 15:29									
<u>EPA 6020B</u>												
Lead	49600	100	200	ug/kg wet	10	50000	---	99	80-120%	---	---	Q-16
<b>Duplicate (22H0947-DUP1)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/27/22 03:39									
<u>QC Source Sample: Non-SDG (A2H0834-01)</u>												
Arsenic	<b>25800</b>	524	1050	ug/kg wet	10	---	8200	---	---	<b>104</b>	<b>20%</b>	Q-04
Barium	<b>281000</b>	524	1050	ug/kg wet	10	---	431000	---	---	<b>42</b>	<b>20%</b>	Q-04
Cadmium	<b>4760</b>	105	210	ug/kg wet	10	---	4740	---	---	0.5	20%	
Chromium	<b>66300</b>	524	1050	ug/kg wet	10	---	57600	---	---	14	20%	

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---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Total Metals by EPA 6020B (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0947 - EPA 3051A</b>						<b>Solid</b>						
<b>Duplicate (22H0947-DUP1)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/27/22 03:39									
<u>QC Source Sample: Non-SDG (A2H0834-01)</u>												
Mercury	89.6	41.9	83.9	ug/kg wet	10	---	90.2	---	---	0.6	20%	TEMP
Selenium	ND	524	1050	ug/kg wet	10	---	ND	---	---	---	20%	
Silver	165	105	210	ug/kg wet	10	---	167	---	---	1	20%	J
<b>Duplicate (22H0947-DUP2)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/29/22 16:13									
<u>QC Source Sample: Non-SDG (A2H0834-01RE1)</u>												
Lead	469000	1050	2100	ug/kg wet	100	---	311000	---	---	40	20%	Q-04
<b>Matrix Spike (22H0947-MS1)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/27/22 03:44									
<u>QC Source Sample: Non-SDG (A2H0834-01)</u>												
<u>EPA 6020B</u>												
Arsenic	57200	542	1080	ug/kg wet	10	54200	8200	90	75-125%	---	---	
Barium	242000	542	1080	ug/kg wet	10	54200	431000	-350	75-125%	---	---	Q-04
Cadmium	58700	108	217	ug/kg wet	10	54200	4740	100	75-125%	---	---	
Chromium	95300	542	1080	ug/kg wet	10	54200	57600	70	75-125%	---	---	Q-04
Mercury	1050	43.4	86.8	ug/kg wet	10	1080	90.2	88	75-125%	---	---	TEMP
Selenium	28700	542	1080	ug/kg wet	10	27100	ND	106	75-125%	---	---	
Silver	28200	108	217	ug/kg wet	10	27100	167	104	75-125%	---	---	
<b>Matrix Spike (22H0947-MS2)</b>			Prepared: 08/26/22 10:18 Analyzed: 08/29/22 16:18									
<u>QC Source Sample: Non-SDG (A2H0834-01RE1)</u>												
<u>EPA 6020B</u>												
Lead	277000	1080	2170	ug/kg wet	100	54200	311000	-63	75-125%	---	---	Q-04

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ANALYTICAL REPORT

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Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**TCLP Metals by EPA 6020B (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 2210029 - EPA 1311/3015A</b>												
<b>Soil</b>												
<b>Blank (2210029-BLK1)</b>												
Prepared: 09/01/22 11:42 Analyzed: 09/01/22 14:49												
<b>1311/6020B</b>												
Arsenic	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Barium	ND	---	5.00	mg/L	10	---	---	---	---	---	---	TCLP
Cadmium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Chromium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Lead	ND	---	0.0500	mg/L	10	---	---	---	---	---	---	TCLP
Mercury	ND	---	0.00700	mg/L	10	---	---	---	---	---	---	TCLP
Selenium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Silver	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
<b>LCS (2210029-BS1)</b>												
Prepared: 09/01/22 11:42 Analyzed: 09/01/22 14:54												
<b>1311/6020B</b>												
Arsenic	4.82	---	0.100	mg/L	10	5.00	---	96	80-120%	---	---	TCLP
Barium	10.1	---	5.00	mg/L	10	10.0	---	101	80-120%	---	---	TCLP
Cadmium	0.969	---	0.100	mg/L	10	1.00	---	97	80-120%	---	---	TCLP
Chromium	4.88	---	0.100	mg/L	10	5.00	---	98	80-120%	---	---	TCLP
Lead	4.69	---	0.0500	mg/L	10	5.00	---	94	80-120%	---	---	TCLP
Mercury	0.0984	---	0.00700	mg/L	10	0.100	---	98	80-120%	---	---	TCLP
Selenium	1.02	---	0.100	mg/L	10	1.00	---	102	80-120%	---	---	TCLP
Silver	1.00	---	0.100	mg/L	10	1.00	---	100	80-120%	---	---	TCLP
<b>Matrix Spike (2210029-MS1)</b>												
Prepared: 09/01/22 11:42 Analyzed: 09/01/22 15:03												
<b>QC Source Sample: FC-082222-1968 (A2H0778-01)</b>												
<b>1311/6020B</b>												
Arsenic	5.19	---	0.100	mg/L	10	5.00	ND	104	50-150%	---	---	
Barium	11.0	---	5.00	mg/L	10	10.0	ND	110	50-150%	---	---	
Cadmium	1.05	---	0.100	mg/L	10	1.00	ND	105	50-150%	---	---	
Chromium	5.22	---	0.100	mg/L	10	5.00	ND	104	50-150%	---	---	
Lead	4.56	---	0.0500	mg/L	10	5.00	ND	91	50-150%	---	---	
Mercury	0.0963	---	0.00700	mg/L	10	0.100	ND	96	50-150%	---	---	
Selenium	1.04	---	0.100	mg/L	10	1.00	ND	104	50-150%	---	---	
Silver	1.09	---	0.100	mg/L	10	1.00	ND	109	50-150%	---	---	
<b>Matrix Spike (2210029-MS3)</b>												
Prepared: 09/01/22 11:42 Analyzed: 09/01/22 15:22												

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ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**TCLP Metals by EPA 6020B (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 2210029 - EPA 1311/3015A</b>						<b>Soil</b>						
<b>Matrix Spike (2210029-MS3)</b>						Prepared: 09/01/22 11:42 Analyzed: 09/01/22 15:22						
<b>QC Source Sample: Non-SDG (A2H0834-01)</b>												
<b>1311/6020B</b>												
Arsenic	5.07	---	0.100	mg/L	10	5.00	ND	101	50-150%	---	---	TCLPa
Barium	11.3	---	5.00	mg/L	10	10.0	ND	113	50-150%	---	---	TCLPa
Cadmium	1.04	---	0.100	mg/L	10	1.00	ND	104	50-150%	---	---	TCLPa
Chromium	5.08	---	0.100	mg/L	10	5.00	ND	102	50-150%	---	---	TCLPa
Lead	5.06	---	0.0500	mg/L	10	5.00	0.0407	100	50-150%	---	---	TCLPa
Mercury	0.105	---	0.00700	mg/L	10	0.100	ND	105	50-150%	---	---	TEMP,TCLPa
Selenium	1.07	---	0.100	mg/L	10	1.00	ND	107	50-150%	---	---	TCLPa
Silver	1.05	---	0.100	mg/L	10	1.00	ND	105	50-150%	---	---	TCLPa
<b>Matrix Spike (2210029-MS4)</b>						Prepared: 09/01/22 11:42 Analyzed: 09/01/22 15:46						
<b>QC Source Sample: Non-SDG (A2H0899-01)</b>												
<b>1311/6020B</b>												
Arsenic	5.15	---	0.100	mg/L	10	5.00	ND	103	50-150%	---	---	
Barium	12.0	---	5.00	mg/L	10	10.0	ND	120	50-150%	---	---	
Cadmium	1.04	---	0.100	mg/L	10	1.00	ND	104	50-150%	---	---	
Chromium	5.14	---	0.100	mg/L	10	5.00	ND	103	50-150%	---	---	
Lead	6.31	---	0.0500	mg/L	10	5.00	1.44	97	50-150%	---	---	
Mercury	0.102	---	0.00700	mg/L	10	0.100	ND	102	50-150%	---	---	
Selenium	1.05	---	0.100	mg/L	10	1.00	ND	105	50-150%	---	---	
Silver	1.05	---	0.100	mg/L	10	1.00	ND	105	50-150%	---	---	

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Darwin Thomas, Business Development Director



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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 22H0995 - ASTM D7511-12mod (S)</b>						<b>Soil</b>						
<b>Blank (22H0995-BLK1)</b>						Prepared: 08/29/22 10:29 Analyzed: 08/29/22 16:20						
<u>D7511-12</u>												
Total Cyanide	ND	50.0	100	ug/kg wet	1	---	---	---	---	---	---	
<b>LCS (22H0995-BS1)</b>						Prepared: 08/29/22 10:29 Analyzed: 08/29/22 16:22						
<u>D7511-12</u>												
Total Cyanide	460	50.0	100	ug/kg wet	1	400	---	115	84-116%	---	---	
<b>Matrix Spike (22H0995-MS1)</b>						Prepared: 08/29/22 10:29 Analyzed: 08/29/22 16:32						
<u>QC Source Sample: Non-SDG (A2H0782-01)</u>												
<u>D7511-12</u>												
Total Cyanide	38600	2490	4980	ug/kg dry	5	3990	37800	<b>21</b>	<b>64-136%</b>	---	---	Q-02
<b>Matrix Spike Dup (22H0995-MSD1)</b>						Prepared: 08/29/22 10:29 Analyzed: 08/29/22 16:34						
<u>QC Source Sample: Non-SDG (A2H0782-01)</u>												
Total Cyanide	33500	2510	5030	ug/kg dry	5	4020	37800	<b>-107</b>	<b>64-136%</b>	14	47%	Q-02

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---	---	---

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Percent Dry Weight**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
<b>Batch 22H0865 - Total Solids (Dry Weight)</b>						<b>Soil</b>							
<b>Duplicate (22H0865-DUP1)</b>			Prepared: 08/24/22 13:13 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0551-02)</u>													
% Solids	97.7	---	1.00	%	1	---	97.8	---	---	0.05	10%		
<b>Duplicate (22H0865-DUP2)</b>			Prepared: 08/24/22 13:13 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0551-04)</u>													
% Solids	97.9	---	1.00	%	1	---	97.9	---	---	0.06	10%		
<b>Duplicate (22H0865-DUP3)</b>			Prepared: 08/24/22 13:13 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0551-06)</u>													
% Solids	98.0	---	1.00	%	1	---	98.1	---	---	0.04	10%		
<b>Duplicate (22H0865-DUP4)</b>			Prepared: 08/24/22 19:14 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0787-01)</u>													
% Solids	82.2	---	1.00	%	1	---	79.9	---	---	3	10%		
<b>Duplicate (22H0865-DUP5)</b>			Prepared: 08/24/22 19:14 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0793-01)</u>													
% Solids	85.0	---	1.00	%	1	---	85.6	---	---	0.7	10%		
<b>Duplicate (22H0865-DUP6)</b>			Prepared: 08/24/22 19:32 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0793-02)</u>													
% Solids	92.5	---	1.00	%	1	---	92.7	---	---	0.2	10%		
<b>Duplicate (22H0865-DUP7)</b>			Prepared: 08/24/22 19:32 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0793-03)</u>													
% Solids	93.0	---	1.00	%	1	---	92.9	---	---	0.2	10%		
<b>Duplicate (22H0865-DUP8)</b>			Prepared: 08/24/22 20:00 Analyzed: 08/25/22 07:08						<b>PRO</b>				
<u>QC Source Sample: Non-SDG (A2H0808-02)</u>													
% Solids	98.4	---	1.00	%	1	---	98.4	---	---	0.01	10%		

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**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Percent Dry Weight**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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**SAMPLE PREPARATION INFORMATION**

**Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

Prep: EPA 3546 (Fuels)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 2210046</u>							
A2H0778-01	Solid	NWTPH-Dx	08/23/22 15:00	09/02/22 06:23	10.44g/5mL	10g/5mL	0.96

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 22H0945</u>							
A2H0778-01	Solid	NWTPH-Gx (MS)	08/23/22 15:00	08/24/22 12:10	5.06g/5mL	5g/5mL	0.99

**Volatile Organic Compounds by EPA 8260D**

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 22H0945</u>							
A2H0778-01	Solid	5035A/8260D	08/23/22 15:00	08/24/22 12:10	5.06g/5mL	5g/5mL	0.99

**Regulated TCLP Volatile Organic Compounds by EPA 1311/8260D**

Prep: EPA 1311/5030B TCLP Volatiles					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 2210073</u>							
A2H0778-01	Solid	1311/8260D	08/23/22 15:00	09/02/22 13:32	5mL/5mL	5mL/5mL	1.00

**Semivolatile Organic Compounds by EPA 8270E**

Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 22H1078</u>							
A2H0778-01	Solid	EPA 8270E	08/23/22 15:00	08/31/22 08:41	15.27g/2mL	15g/2mL	0.98

**Total Metals by EPA 6020B (ICPMS)**

Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 22H0947</u>							
A2H0778-01	Solid	EPA 6020B	08/23/22 15:00	08/26/22 10:18	0.482g/50mL	0.5g/50mL	1.04

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<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**SAMPLE PREPARATION INFORMATION**

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A2H0778-01RE1	Solid	EPA 6020B	08/23/22 15:00	08/26/22 10:18	0.482g/50mL	0.5g/50mL	1.04

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 2210029							
A2H0778-01	Solid	1311/6020B	08/23/22 15:00	09/01/22 11:42	10mL/50mL	10mL/50mL	1.00

Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12mod (S)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 22H0995							
A2H0778-01	Solid	D7511-12	08/23/22 15:00	08/29/22 10:29	2.5203g/50mL	2.5g/50mL	0.99

Percent Dry Weight

Prep: Total Solids (Dry Weight)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 22H0865							
A2H0778-01	Solid	EPA 8000D	08/23/22 15:00	08/24/22 13:13			NA

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 22H1092							
A2H0778-01RE1	Solid	EPA 1311	08/23/22 15:00	08/31/22 15:38	100g/2000g	100g/2000g	NA

Prep: EPA 1311 TCLP/ZHE					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 2210031							
A2H0778-01	Solid	EPA 1311 ZHE	08/23/22 15:00	09/01/22 15:38	25.1g/502.2g	25g/500g	NA

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc.  
2749 Lockport Road  
Niagara Falls, NY 14305

Project: Gasco -- Filtercake  
Project Number: 111323  
Project Manager: Chip Byrd

Report ID:  
A2H0778 - 09 08 22 0746

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- B** Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- ICV-02** Estimated Result. Initial Calibration Verification (ICV) failed low.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- M-05** Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
- PRO** Sample has undergone sample processing prior to extraction and analysis.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-02** Spike recovery is outside of established control limits due to matrix interference.
- Q-04** Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-18** Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
- Q-29** Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-31** Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- Q-52** Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.
- Q-54** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -1%. The results are reported as Estimated Values.
- Q-54a** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -11%. The results are reported as Estimated Values.
- Q-54b** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -2%. The results are reported as Estimated Values.
- Q-54c** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -21%. The results are reported as Estimated Values.
- Q-54d** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -5%. The results are reported as Estimated Values.
- Q-54e** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -6%. The results are reported as Estimated Values.

Apex Laboratories

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Darwin Thomas, Business Development Director



**ANALYTICAL REPORT**

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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- Q-55** Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260, however there is adequate sensitivity to ensure detection at the reporting level.
- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01** Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- TCLP** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 22H1092.
- TCLPa** Limited sample volume. Leachate was prepared using less than the recommended amount of sample per EPA 1311 or 1312. To maintain consistency in leaching, the standard ratio of sample to leachate fluid was maintained.
- TCLPb** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 22I0031.
- TEMP** Sample was received outside of recommended temperature. See Case Narrative.
- V-15** Sample aliquot was subsampled from the sample container. The subsampled aliquot was preserved in the laboratory within 48 hours of sampling.

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**REPORTING NOTES AND CONVENTIONS:**

**Abbreviations:**

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

**Detection Limits: Limit of Detection (LOD)**

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).  
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

**Reporting Limits: Limit of Quantitation (LOQ)**

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

**Reporting Conventions:**

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.  
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.
- " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")  
See Percent Solids section for details of dry weight analysis.
- " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

**QC Source:**

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.  
  
Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

**Miscellaneous Notes:**

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " \*\*\* " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

**Blanks:**

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).  
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.  
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.  
For further details, please request a copy of this document.

Apex Laboratories

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Darwin Thomas, Business Development Director



ANALYTICAL REPORT

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Table with 3 columns: Client (Sevenson Environmental Services, Inc.), Project (Gasco -- Filtercake), and Report ID (A2H0778 - 09 08 22 0746).

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Handwritten signature of Darwin Thomas

Darwin Thomas, Business Development Director



ANALYTICAL REPORT

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ORELAP ID: OR100062

<b>Sevenson Environmental Services, Inc.</b> 2749 Lockport Road Niagara Falls, NY 14305	Project: <b>Gasco -- Filtercake</b> Project Number: <b>111323</b> Project Manager: <b>Chip Byrd</b>	<b>Report ID:</b> <b>A2H0778 - 09 08 22 0746</b>
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**LABORATORY ACCREDITATION INFORMATION**

**ORELAP Certification ID: OR100062 (Primary Accreditation) -**  
**EPA ID: OR01039**

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

**Apex Laboratories**

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
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All reported analytes are included in Apex Laboratories' current ORELAP scope.

**Secondary Accreditations**

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

**Subcontract Laboratory Accreditations**

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

**Field Testing Parameters**

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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ANALYTICAL REPORT

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Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

**Sevenson Environmental Services, Inc.**

2749 Lockport Road

Niagara Falls, NY 14305

Project: **Gasco -- Filtercake**

Project Number: **111323**

Project Manager: **Chip Byrd**

**Report ID:**

**A2H0778 - 09 08 22 0746**

**APEX LABS**  
12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333  
Company: Sevenson Environmental Services, Inc.  
Address: 2749 Lockport Road, Niagara Falls, NY 14305  
Sampled by: *Walter Savage*

COC \_\_\_ of \_\_\_  
Lab # **A2H0778**  
Project Name: Gasco -- Filtercake Project # 111323  
Project Mgr: Chip Byrd E-mail: [whbyrd@sevenson.com](mailto:whbyrd@sevenson.com)  
Phone: (716) 883-2754 Fax:  
ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	8260 VOCs	1311/8260 TCPL VOCs	8270D LL Fill List	Dry Weight	Metals, RCA 8	Metals, TPCL	Total Cyanide	NMTPH-DX	NMTPH-GX	SPECIAL INSTRUCTIONS:						
															1 DAY	2 DAY	3 DAY	4 DAY	5 DAY		
FC-082222-1968		8/23/11	0300	S	1	X	X	X	X	X	X	X	X	X							
Normal Turn Around Time (TAT) = 6-10 Business Days																					
TAT Requested (circle): 1 DAY 2 DAY <b>3 DAY</b> 4 DAY 5 DAY <b>STD</b> Other: _____																					
RECEIVED BY: <i>[Signature]</i> Date: <i>8/24/11</i> Signature: _____ Date: _____ Printed Name: <i>Eli Johnson</i> Time: <i>1008</i> Company: <i>Apex Labs</i>																					
RECEIVED BY: _____ Date: _____ Signature: _____ Date: _____ Printed Name: _____ Time: _____ Company: _____																					

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**APEX LABS COOLER RECEIPT FORM**

Client: Sevenson Environmental Services, Inc. Element WO#: A2H0778

Project/Project #: Gasco - Filtercake 111323

**Delivery Info:**  
 Date/time received: 8/24/22 @ 1008 By: ET  
 Delivered by: Apex  Client  ESS  FedEx  UPS  Swift  Senvoy  SDS  Other

**Cooler Inspection** Date/time inspected: 8/24/22 @ 1120 By: ET  
 Chain of Custody included? Yes  No  Custody seals? Yes  No   
 Signed/dated by client? Yes  No   
 Signed/dated by Apex? Yes  No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.6</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)							
Ice type: (Gel/Real/Other)	<u>6e</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) (N) Possible reason why: \_\_\_\_\_  
 Green dots applied to out of temperature samples? Yes  No   
 Out of temperature samples form initiated? Yes  No

**Sample Inspection:** Date/time inspected: 8/24/22 @ 11:51 By: 2KAM  
 All samples intact? Yes  No  Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 Bottle labels/COCs agree? Yes  No  Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 COC/container discrepancies form initiated? Yes  No   
 Containers/volumes received appropriate for analysis? Yes  No  Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 Do VOA vials have visible headspace? Yes  No  NA   
 Comments: \_\_\_\_\_  
 Water samples: pH checked: Yes  No  NA  pH appropriate? Yes  No  NA   
 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
**Additional information:**  
 \_\_\_\_\_  
 \_\_\_\_\_

Labeled by: 2KAM                      Witness: TS                      Cooler Inspected by: 2KAM

Apex Laboratories

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